Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	"20020109160"	US-PGPUB; USPAT	OR	OFF	2004/12/10 10:54
S2	0	"348"".""308".ccls.	USPAT	OR	OFF	2004/12/13 16:06
S3	386	348/308.ccls.	USPAT	OR	OFF	2004/12/13 16:06
S4	235	S3 and substrate	USPAT	OR	OFF	2004/12/13 16:06
S5	212	S4 and (photodiode or photo or diode)	USPAT	OR	OFF	2004/12/13 16:07
S6	28	S5 and gate and (transfer adj transistor)	USPAT	OR	OFF	2004/12/13 16:09
S7	20	S6 and mos and (solid-state or solid or state)	USPAT	OR	OFF	2004/12/13 16:09
S8	0	("6731337").URPN.	USPAT	OR	OFF	2004/12/13 16:17
S9	4	("20020109160" | "6521925" | "6566678" | "6606124").PN. OR ("6731337").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/13 16:17
S10	2	("6566678").URPN.	USPAT	OR	OFF	2004/12/13 16:19
S11	2	("6566678").URPN.	USPAT	OR	OFF	2004/12/13 16:19
S12	4	("5243180" | "6248133" | "6356305").PN. OR ("6606124"). URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/13 16:20
S13	45063	mos and (solid-state or solid or state)	USPAT	OR	OFF	2004/12/13 16:28
S14	1826	S13 and photodiode	USPAT	OR	OFF	2004/12/13 16:28
S15	361	S14 and gate and (transfer same transistor)	USPAT	OR	OFF	2004/12/13 16:29
S16	346	S15 and (n-type or n or type) and (p-type or p or type)	USPAT	OR	OFF	2004/12/13 16:31
S17	12254	S16 and semiconductor region and charge and pixel	USPAT	OR	OFF	2004/12/13 16:32
S18	107	S16 and (semiconductor same region) and charge and pixel	USPAT	OR	OFF	2004/12/13 16:32
S19	35	S18 and pixel$2 and positive and negative	USPAT	OR	OFF	2004/12/13 16:33
S20	24	photodiode and (transfer adj transistor) and (gate same voltage same negative)	USPAT	OR	OFF	2004/12/14 09:11
S21	0	photodiode and (transfer adj transistor) and (gate same voltage same negative same invert$2)	USPAT	OR	OFF	2004/12/14 09:12
S22	6	photodiode and (transfer adj transistor) and (gate same voltage same negative) and invert$2	USPAT	OR	OFF	2004/12/14 09:12
S23	0	257/230.ccls	USPAT	OR	OFF	2004/12/14 10:05

S24	143	257/230.ccls.	USPAT	OR	OFF	2004/12/14 10:10
S25	19	S24 and (gate same negative) same (volt or volts or voltage)	USPAT	OR	OFF	2004/12/14 10:06
S26	3	S24 and (gate same negative) same (volt or volts or voltage) and (invert or inverted)	USPAT	OR	OFF	2004/12/14 10:10
S27	255	257/231.ccls.	USPAT	OR	OFF	2004/12/14 10:17
S28	8	S27 and (gate same negative) same (volt or volts or voltage) and (invert or inverted)	USPAT	OR	OFF	2004/12/14 10:17
S29	364	257/233.ccls.	USPAT	OR	OFF	2004/12/14 10:20
S30	3	S29 and (gate same negative) same (volt or volts or voltage) and (invert or inverted)	USPAT	OR	OFF	2004/12/14 10:20
S31	389	257/291.ccls.	USPAT	OR	OFF	2004/12/14 11:04
S32	14	S31 and (gate same negative) same (volt or volts or voltage) and (invert or inverted)	USPAT	OR	OFF	2004/12/14 12:12
S33	7	S32 and impurity and concentration and area	USPAT	OR	OFF	2004/12/14 10:38
S34	20	S31 and charge and (overflow or discharge) and photodiode and (transfer same transistor)	USPAT	OR	OFF	2004/12/14 11:07
S35	7	S31 and charge same flow same photodiode same substrate	USPAT	OR	OFF	2004/12/14 11:04
S36	426	257/292.ccls.	USPAT	OR	OFF	2004/12/14 11:04
S37	8	S36 and charge same flow same photodiode same substrate	USPAT	OR	OFF	2004/12/14 11:04
S38	1	2002/0109160	USPAT	OR	OFF	2004/12/14 11:19
S39	1	photodiode and detection and (transfer with transistor) and (gate same negative same invert)	USPAT	OR	OFF	2004/12/14 12:14
S40	1	photodiode and detection and (transfer with transistor) and (gate same negative) same invert	USPAT	OR	OFF	2004/12/14 12:14
S41	5	photodiode and detection and (transfer with transistor) and (gate same negative) and invert	USPAT	OR	OFF	2004/12/14 13:16
S42	1084	photodiode same n-type and p-type and substrate	USPAT	OR	OFF	2004/12/14 13:16
S43	139	photodiode same n-type same p-type same impurity same substrate	USPAT	OR	OFF	2004/12/14 13:17
S44	21	photodiode same n-type same p-type same impurity same (less or lower) same substrate	USPAT	OR	OFF	2004/12/14 13:30

S45	647	(n-type same semiconductor same region) and charge same (accumulate or accumulation)	USPAT	OR	OFF	2004/12/14 13:31
S46	84	(n-type same semiconductor same region) and charge same (accumulate or accumulation) and photodiode and substrate and gate	USPAT	OR	OFF	2004/12/14 13:32
S47	28	(n-type same semiconductor same region) and charge same (accumulate or accumulation) and photodiode and substrate and gate and negative and positive	USPAT	OR	OFF	2004/12/14 13:32
S48	9	(n-type same semiconductor same region) and charge same (accumulate or accumulation) and photodiode and substrate and gate and negative and positive and (invert or inverted)	USPAT	OR	OFF	2004/12/14 13:43
S49	647	(n-type same semiconductor same region) and charge same (accumulate or accumulation)	USPAT	OR	OFF	2004/12/14 13:44
S50	203	(n-type same semiconductor same region) and charge same (accumulate or accumulation) and (impurity same concentration)	USPAT	OR	OFF	2004/12/14 13:45
S51	54	S50 and gate same (negative and positive)	USPAT	OR	OFF	2004/12/14 13:45
S52	0	S51 and photodiode and transmitter	USPAT	OR	OFF	2004/12/14 13:46
S53	12	S51 and photodiode	USPAT	OR	OFF	2004/12/14 13:46
S54	4	("20020109160" | "6521925" | "6566678" | "6606124").PN. OR ("6731337").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/14 13:48
S55	2	("6566678").URPN.	USPAT	OR	OFF	2004/12/14 13:50
S56	9	("4984047" | "5625210" | "5903021" | "6084259" | "6150676" | "6169318" | "6184055" | "6218691").PN. OR ("6521925"). URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/14 13:50
S57	1081	n-type same (impurity with concentration) same (less or lower) same p-type	USPAT	OR	OFF	2004/12/14 14:28
S58	815	n-type same (impurity adj concentration) same (less or lower) same p-type	USPAT	OR	OFF	2004/12/14 14:28
S59	554	n-type same region same (impurity adj concentration) same (less or lower) same p-type	USPAT	OR	OFF	2004/12/14 14:29

S60	0	n-type same region same (impurity adj concentration) same (less adj than) same p-type	USPAT	OR	OFF	2004/12/14 14:29
S61	0	n-type same region same (impurity adj concentration) same (less with than) same p-type	USPAT	OR	OFF	2004/12/14 14:29
S62	554	n-type same region same (impurity adj concentration) same (less or lower) same p-type same region	USPAT	OR	OFF	2004/12/14 14:30
S63	76	S62 and gate same (positive and negative) same voltage	USPAT	OR	OFF	2004/12/14 14:31
S64	7	("4665418" | "5264384" | "5591652" | "5650340" | "5780912" | "5998265" | "6121655").PN. OR ("6803623").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/14 15:05
S65	57	("4342149" | "4442589" | "4578128" | "4771012" | "4939571" | "4949140" | "5210044" | "5264384" | "5364807" | "5366915" | "5371394" | "5376566" | "5378909" | "5424567" | "5427964").PN. OR ("5650340"). URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/14 15:07
S66	32	("4769686" | "4914492" | "5045916" | "5061975" | "5147811" | "5189497" | "5190887" | "5194749" | "5208175" | "5216272" | "5217910" | "5247198" | "5334870" | "5424567" | "5444282" | "5477072" | "5486487" | "5492847" | "5532176" | "5578509" | "5585293" | "5612914" | "5629541" | "5650340" | "5656522" | "5656839" | "5691560" | "5753556" | "5780902").PN. OR ("6236085").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/14 15:14

S67	39	(US-4686554-$ or US-4791469-$ or US-4916512-$ or US-5128735-$ or US-5260592-$ or US-5563431-$ or US-5442208-$ or US-4798958-$ or US-5581094-$ or US-5598023-$ or US-5920092-$ or US-6180969-$ or US-6281533-$ or US-4626915-$ or US-5304803-$ or US-5880495-$ or US-6815791-$ or US-4733286-$ or US-5847422-$ or US-6731337-$ or US-6380602-$ or US-6606124-$ or US-6566678-$ or US-6521925-$ or US-6218691-$ or US-6184055-$). did. or (US-6084259-$ or US-5903021-$ or US-4984047-$ or US-6180959-$ or US-6236085-$ or US-5691560-$ or US-5650340-$ or US-6110783-$ or US-6100148-$ or US-6093951-$ or US-5985727-$ or US-5923987-$ or US-5371394-$). did.	USPAT	OR	OFF	2004/12/14 16:35
S68	17	S67 and n-type same (impurity concentration)	USPAT	OR	OFF	2004/12/14 16:36
S69	9	S67 and n-type same (impurity adj concentration)	USPAT	OR	OFF	2004/12/15 09:02
S70	97	p-type same n-type same (impurity adj concentration) and (black or dark) with current	USPAT	OR	OFF	2004/12/15 09:03
S71	0	("6486498").URPN.	USPAT	OR	OFF	2004/12/15 09:21
S72	4	("5625210" | "5904493" | "6027955" | "6100551").PN. OR ("6486498").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:22
S73	4	("3969751" | "5045906" | "5619049" | "5942774").PN. OR ("6465859").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:24
S74	0	n-type same region same lower same than same (impurityadj concentration) same p-type and photodiode and detection	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:26
S75	0	n-type same region same lower same than same (impurityadj concentration) same p-type and photodiode	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:26
S76	0	n-type same region same (lower or less) same than same (impurity adj concentration) same p-type and photodiode	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:27
S77	64	n-type same region same (lower or less) same (impurity adj concentration) same p-type and photodiode	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:27

S78	18	n-type same region same (lower or less) same (impurity adj concentration) same p-type and photodiode and detection	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:27
S79	18	n-type same region same (lower or less) same (impurity adj concentration) same p-type and photodiode and detection and substrate	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:32
S80	0	(photodiode and detection and transfer and transsitor and gate and voltage and positive and negative) and n-type same (lower or less) same (impurity adj concentration) same p-type	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:33
S81	252	gate and voltage and positive and negative and n-type same (lower or less) same (impurity adj concentration) same p-type	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:34
S82	155	gate same voltage same (positive and negative) and n-type same (lower or less) same (impurity adj concentration) same p-type	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 10:58
S83	0	photdiode and detection and gate same voltage same (positive and negative) and n-type same (lower or less) same (impurity adj concentration) same p-type	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:40
S84	0	photdiode and gate same voltage same (positive and negative) and n-type same (lower or less) same (impurity adj concentration) same p-type	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:35
S85	5	photodiode and gate same voltage same (positive and negative) and n-type same (lower or less) same (impurity adj concentration) same p-type	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:35
S86	1	("2002/0109160").URPN.	USPAT	OR	OFF	2004/12/15 09:36
S87	4	("20020109160" | "6521925" | "6566678" | "6606124").PN. OR ("6731337").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:36
S88	5	(photodiode and transistor) and gate same voltage same (positive and negative) and n-type same (lower or less) same (impurity adj concentration) same p-type	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:47
S89	397	257/233.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:49

S90	17	S89 and photodiode same negative	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:50
S91	510	257/292.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:49
S92	35	S91 and photodiode same negative	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 09:50
S93	0	10/046402	USPAT	OR	OFF	2004/12/15 10:31
S94	1	2002/0109160	USPAT	OR	OFF	2004/12/15 10:32
S95	4	("20020109160" | "6521925" | "6566678" | "6606124").PN. OR ("6731337").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 10:32
S96	43	(US-20020109160-$).did. or (US-4686554-$ or US-4791469-$ or US-4916512-$ or US-5128735-$ or US-5260592-$ or US-5563431-$ or US-5442208-$ or US-4798958-$ or US-5581094-$ or US-5598023-$ or US-5920092-$ or US-6180969-$ or US-6281533-$ or US-4626915-$ or US-5304803-$ or US-5880495-$ or US-6815791-$ or US-4733286-$ or US-5847422-$ or US-6731337-$ or US-6380602-$ or US-6606124-$ or US-6566678-$ or US-6521925-$ or US-6218691-$ or US-6184055-$). did. or (US-6084259-$ or US-5903021-$ or US-4984047-$ or US-6180959-$ or US-6236085-$ or US-5691560-$ or US-5650340-$ or US-6110783-$ or US-6100148-$ or US-6093951-$ or US-5985727-$ or US-5923987-$ or US-5371394-$ or US-6486498-$ or US-6465859-$ or US-6320211-$).did.	US-PGPUB; USPAT	OR	OFF	2004/12/15 10:35

S97	43	(US-20020109160-$).did. or (US-4686554-$ or US-4791469-$ or US-4916512-$ or US-5128735-$ or US-5260592-$ or US-5563431-$ or US-5442208-$ or US-4798958-$ or US-5581094-$ or US-5598023-$ or US-5920092-$ or US-6180969-$ or US-6281533-$ or US-4626915-$ or US-5304803-$ or US-5880495-$ or US-6815791-$ or US-4733286-$ or US-5847422-$ or US-6731337-$ or US-6380602-$ or US-6606124-$ or US-6566678-$ or US-6521925-$ or US-6218691-$ or US-6184055-$). did. or (US-6084259-$ or US-5903021-$ or US-4984047-$ or US-6180959-$ or US-6236085-$ or US-5691560-$ or US-5650340-$ or US-6110783-$ or US-6100148-$ or US-6093951-$ or US-5985727-$ or US-5923987-$ or US-5371394-$ or US-6486498-$ or US-6465859-$ or US-6320211-$).did.	US-PGPUB; USPAT	OR	OFF	2004/12/15 10:35
S98	43	(US-20020109160-$).did. or (US-4686554-$ or US-4791469-$ or US-4916512-$ or US-5128735-$ or US-5260592-$ or US-5563431-$ or US-5442208-$ or US-4798958-$ or US-5581094-$ or US-5598023-$ or US-5920092-$ or US-6180969-$ or US-6281533-$ or US-4626915-$ or US-5304803-$ or US-5880495-$ or US-6815791-$ or US-4733286-$ or US-5847422-$ or US-6731337-$ or US-6380602-$ or US-6606124-$ or US-6566678-$ or US-6521925-$ or US-6218691-$ or US-6184055-$). did. or (US-6084259-$ or US-5903021-$ or US-4984047-$ or US-6180959-$ or US-6236085-$ or US-5691560-$ or US-5650340-$ or US-6110783-$ or US-6100148-$ or US-6093951-$ or US-5985727-$ or US-5923987-$ or US-5371394-$ or US-6486498-$ or US-6465859-$ or US-6320211-$).did.	US-PGPUB; USPAT	OR	OFF	2004/12/15 10:36
S99	12	S98 and (gate with voltage with negative)	US-PGPUB; USPAT	OR	OFF	2004/12/15 10:36
S100	1	S82 and photodiode and (transfer with transistor)	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 10:54
S101	5	S82 and photodiode and (transistor)	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 10:54

S10 2	52	mos and photodiode and (solid-state or solid adj state) and transistor with gate with voltage with negative	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 11:00
S10 3	0	S102 and charge&2 with (accumulate or accumulation)	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 11:00
S10 4	0	S102 and charge&2	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 11:01
S10 5	38	S102 and charges	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 11:01
S10 6	6	S102 and charge$2 and accumulate	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 11:02
S10 7	6	S102 and charge and accumulate	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 11:13
S10 8	0	(phototdiode and gate and transistor) and mos and (solid-state or solid adj state)	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 11:14
S10 9	1035	(photodiode and gate and transistor) and mos and (solid-state or solid adj state)	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 11:39
S11 0	99	S109 and (negative with voltage with gate)	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 11:15
S11 1	0	S109 and (negative with voltage with gate) same invert	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 11:15
S11 2	8	(photodiode and gate and transistor) and mos and (solid-state or solid adj state) and (inverse or invert) same channel	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 11:45
S11 3	50	(photodiode and gate and transistor) and mos and (solid-state or solid adj state) and (inverse or invert$2) same (channel or under or portion) same gate	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 12:07
S11 4	0	("2001/0052940").URPN.	USPAT	OR	OFF	2004/12/15 11:47
S11 5	351	(photodiode and transistor) and (inverse or invert$2) same (channel or under or portion) same gate	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 12:07
S11 6	61	(photodiode and transistor) and (inverse or invert) same (channel or under or portion) same gate	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 12:09

S11 7	35	(photodiode and transistor and substrate) and (inverse or invert) same (channel or under or portion) same gate	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/15 12:10
S11 8	389	257/291.ccls.	USPAT	OR	OFF	2004/12/21 09:51
S11 9	208	S118 and (photodiode or photo-diode)	USPAT	OR	OFF	2004/12/21 09:29
S12 0	14	S119 and (detection or detector or detect) same portion	USPAT	OR	OFF	2004/12/21 09:34
S12 1	87	S119 and (detection or detector or detect) and (gate same volt$3)	USPAT	OR	OFF	2004/12/21 09:35
S12 2	20	S119 and (detection or detector or detect) and (gate same volt$3) and (impurity same concentration)	USPAT	OR	OFF	2004/12/21 09:37
S12 3	449	S119 mos and (solid-state or solid adj state) and (detection or detector or detect) and (gate same volt$3) and (impurity same concentration)	USPAT	OR	OFF	2004/12/21 09:38
S12 4	311	S119 mos and (solid-state or solid adj state) and (detection or detector or detect) and (gate same volt$3) and (transistor same transfer) and (impurity same concentration)	USPAT	OR	OFF	2004/12/21 09:38
S12 5	487	S118 mos and (solid-state or solid adj state) and (detection or detector or detect) and (gate same volt$3) and (transistor same transfer) and (impurity same concentration)	USPAT	OR	OFF	2004/12/21 09:39
S12 6	10	S118 and mos and (solid-state or solid adj state) and (detection or detector or detect) and (gate same volt$3) and (transistor same transfer) and (impurity same concentration)	USPAT	OR	OFF	2004/12/21 09:41
S12 7	0	S118 and mmos and (solid-state or solid adj state) and (detection or detector or detect) and (gate same volt$3) and (transistor same transfer) and (impurity same concentration)	USPAT	OR	OFF	2004/12/21 09:44
S12 8	0	S118 and mmos and (solid-state or solid adj state)	USPAT	OR	OFF	2004/12/21 09:42
S12 9	0	S118 and mmos and (solid-state)	USPAT	OR	OFF	2004/12/21 09:43
S13 0	120	S118 and mos and (solid-state or solid adj state)	USPAT	OR	OFF	2004/12/21 09:52

S13 1	32	S130 and gate same voltage same negative	USPAT	OR	OFF	2004/12/21 09:53
S13 2	21	S130 and gate with voltage with negative	USPAT	OR	OFF	2004/12/21 09:54
S13 3	7	S132 and photodiode and transistor	USPAT	OR	OFF	2004/12/21 09:55
S13 4	47	(US-20020109160-$).did. or (US-4626915-$ or US-4686554-$ or US-4733286-$ or US-4791469-$ or US-4798958-$ or US-4916512-$ or US-4984047-$ or US-4995049-$ or US-5128735-$ or US-5260592-$ or US-5304803-$ or US-5371394-$ or US-5442208-$ or US-5563431-$ or US-5581094-$ or US-5598023-$ or US-5650340-$ or US-5691560-$ or US-5714782-$ or US-5847422-$ or US-5880495-$ or US-5892253-$ or US-5903021-$ or US-5920092-$ or US-5923987-$ or US-5942775-$). did. or (US-5985727-$ or US-6084259-$ or US-6093951-$ or US-6100148-$ or US-6110783-$ or US-6180959-$ or US-6180969-$ or US-6184055-$ or US-6218691-$ or US-6236085-$ or US-6281533-$ or US-6320211-$ or US-6380602-$ or US-6465859-$ or US-6486498-$ or US-6521925-$ or US-6566678-$ or US-6606124-$ or US-6731337-$ or US-6815791-$).did.	US-PGPUB; USPAT	OR	OFF	2004/12/21 10:01
S13 5	14	S134 and (negative with voltage with gate)	US-PGPUB; USPAT	OR	OFF	2004/12/21 11:35
S13 6	3	S135 and photodiode and (transistor with transfer)	US-PGPUB; USPAT	OR	OFF	2004/12/21 10:02

S13 7	47	(US-20020109160-$).did. or (US-4626915-$ or US-4686554-$ or US-4733286-$ or US-4791469-$ or US-4798958-$ or US-4916512-$ or US-4984047-$ or US-4995049-$ or US-5128735-$ or US-5260592-$ or US-5304803-$ or US-5371394-$ or US-5442208-$ or US-5563431-$ or US-5581094-$ or US-5598023-$ or US-5650340-$ or US-5691560-$ or US-5714782-$ or US-5847422-$ or US-5880495-$ or US-5892253-$ or US-5903021-$ or US-5920092-$ or US-5923987-$ or US-5942775-$). did. or (US-5985727-$ or US-6084259-$ or US-6093951-$ or US-6100148-$ or US-6110783-$ or US-6180959-$ or US-6180969-$ or US-6184055-$ or US-6218691-$ or US-6236085-$ or US-6281533-$ or US-6320211-$ or US-6380602-$ or US-6465859-$ or US-6486498-$ or US-6521925-$ or US-6566678-$ or US-6606124-$ or US-6731337-$ or US-6815791-$).did.	US-PGPUB; USPAT	OR	OFF	2004/12/21 14:54
S13 8	22	S137 and (negative with voltage)	US-PGPUB; USPAT	OR	OFF	2004/12/21 11:35
S13 9	47	(US-20020109160-$).did. or (US-4626915-$ or US-4686554-$ or US-4733286-$ or US-4791469-$ or US-4798958-$ or US-4916512-$ or US-4984047-$ or US-4995049-$ or US-5128735-$ or US-5260592-$ or US-5304803-$ or US-5371394-$ or US-5442208-$ or US-5563431-$ or US-5581094-$ or US-5598023-$ or US-5650340-$ or US-5691560-$ or US-5714782-$ or US-5847422-$ or US-5880495-$ or US-5892253-$ or US-5903021-$ or US-5920092-$ or US-5923987-$ or US-5942775-$). did. or (US-5985727-$ or US-6084259-$ or US-6093951-$ or US-6100148-$ or US-6110783-$ or US-6180959-$ or US-6180969-$ or US-6184055-$ or US-6218691-$ or US-6236085-$ or US-6281533-$ or US-6320211-$ or US-6380602-$ or US-6465859-$ or US-6486498-$ or US-6521925-$ or US-6566678-$ or US-6606124-$ or US-6731337-$ or US-6815791-$).did.	US-PGPUB; USPAT	OR	OFF	2004/12/21 14:55
S14 0	13	S139 and n-type same p-type same concentration same (less or lower)	US-PGPUB; USPAT	OR	OFF	2004/12/21 15:28

S14 1	3528	n-type same p-type same concentration same (less or lower)	US-PGPUB; USPAT	OR	OFF	2004/12/21 15:29
S14 2	43	photodiode same substrate same pixel same (impurity or doping) same concentration	US-PGPUB; USPAT	OR	OFF	2004/12/21 15:30
S14 3	10	S142 and S141	US-PGPUB; USPAT	OR	OFF	2004/12/21 15:46
S14 4	1	"5714782".pn.	US-PGPUB; USPAT	OR	OFF	2004/12/21 15:46
S14 7	47	(US-20020109160-$).did. or (US-4626915-$ or US-4686554-$ or US-4733286-$ or US-4791469-$ or US-4798958-$ or US-4916512-$ or US-4984047-$ or US-4995049-$ or US-5128735-$ or US-5260592-$ or US-5304803-$ or US-5371394-$ or US-5442208-$ or US-5563431-$ or US-5581094-$ or US-5598023-$ or US-5650340-$ or US-5691560-$ or US-5714782-$ or US-5847422-$ or US-5880495-$ or US-5892253-$ or US-5903021-$ or US-5920092-$ or US-5923987-$ or US-5942775-$). did. or (US-5985727-$ or US-6084259-$ or US-6093951-$ or US-6100148-$ or US-6110783-$ or US-6180959-$ or US-6180969-$ or US-6184055-$ or US-6218691-$ or US-6236085-$ or US-6281533-$ or US-6320211-$ or US-6380602-$ or US-6465859-$ or US-6486498-$ or US-6521925-$ or US-6566678-$ or US-6606124-$ or US-6731337-$ or US-6815791-$).did.	US-PGPUB; USPAT	OR	OFF	2004/12/22 09:56
S14 8	0	S147 and gate same positive same voltage same channel same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 11:04
S14 9	1	S147 and gate same positive same voltage same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 09:57
S15 0	2	S147 and gate same voltage same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 09:59
S15 1	117	gate same voltage same (channel with portion) same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:18
S15 2	608	photodiode same (transfer with transistor)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:00
S15 3	0	S152 and S151	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:01
S15 4	1	S151 and photodiode	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:01

S15 5	115	S151 and (photodiode or semiconductor)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:01
S15 6	0	gate same positve same voltage same (channel with portion) same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:02
S15 7	25	gate same positive same voltage same (channel with portion) same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:16
S15 8	3	gate same positive same voltage same (channel adj portion) same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:16
S15 9	16	gate same voltage same (positive same negative) same (channel with portion) same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:19
S16 0	1	S147 and gate same voltage same channel same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:32
S16 1	2	S147 and gate same voltage same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:33
S16 2	2	S147 and gate same channel same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:33
S16 3	1	gate same (channel adj portion) same (below or under) same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:35
S16 4	700	gate same voltage same (below or under) same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:35
S16 5	0	gate same voltage same psotive same (below or under) same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:35
S16 6	168	gate same voltage same positive same (below or under) same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:35
S16 7	112	gate same (voltage with positive) same (below or under) same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:36
S16 8	72	gate with (voltage with positive) same (below or under) same (invert or inverse)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:36
S16 9	0	S168 and (channel adj portion)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:36
S17 0	35	S168 and (channel with portion)	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:53
S17 1	1	"20020109160"	US-PGPUB; USPAT	OR	OFF	2004/12/22 10:54
S17 2	23	S147 and gate with voltage with (source or supply)	US-PGPUB; USPAT	OR	OFF	2004/12/22 11:04
S17 3	2	photodiode same (transfer with transistor) same charge same flow same drain	USPAT	OR	OFF	2004/12/23 10:22

S17 4	38	("4062699" | "4173818" | "4208780" | "5031008" | "5429958" | "5486480" | "5565377" | "5605855" | "5650340" | "5712501" | "5744994" | "5753958" | "5773863").PN. OR ("6093951"). URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/23 10:29
S17 5	4	("3969751" | "5045906" | "5619049" | "5942774").PN. OR ("6465859").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/29 14:51
S17 6	244	257/223.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/29 15:40
S17 7	222	S176 and (photodiode or photo-diode or semiconductor)	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/29 14:52
S17 8	99	S177 and charge and deplet$5	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/29 15:40
S17 9	50	("3715485" | "3728590" | "3771149" | "3792322" | "3852799" | "3863065" | "3866067").PN. OR ("3896485").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/29 14:59
S18 0	24	("3845295" | "3866067" | "3896474" | "3896485").PN. OR ("4373167").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/29 15:08
S18 1	253	257/229.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/29 15:40
S18 2	88	S181 and charge and deplet$5	US-PGPUB; USPAT; USOCR	OR	OFF	2004/12/29 15:40

S18 3	50	(US-20020109160-$).did. or (US-4626915-$ or US-4686554-$ or US-4733286-$ or US-4791469-$ or US-4798958-$ or US-4916512-$ or US-4984047-$ or US-4995049-$ or US-5128735-$ or US-5260592-$ or US-5304803-$ or US-5371394-$ or US-5563431-$ or US-5581094-$ or US-5598023-$ or US-5650340-$ or US-5691560-$ or US-5714782-$ or US-5847422-$ or US-5880495-$ or US-5892253-$ or US-5903021-$ or US-5920092-$ or US-5923987-$ or US-5942775-$ or US-5985727-$). did. or (US-6084259-$ or US-6093951-$ or US-6100148-$ or US-6110783-$ or US-6180959-$ or US-6180969-$ or US-6184055-$ or US-6218691-$ or US-6236085-$ or US-6281533-$ or US-6320211-$ or US-6380602-$ or US-6465859-$ or US-6486498-$ or US-6521925-$ or US-6566678-$ or US-6606124-$ or US-6731337-$ or US-6815791-$ or US-3896485-$ or US-4373167-$ or US-3866067-$ or US-5514887-$). did.	US-PGPUB; USPAT	OR	OFF	2004/12/29 15:50
S18 4	31	S183 and (impurity with concentration)	US-PGPUB; USPAT	OR	OFF	2004/12/29 15:52
S18 5	33	S184 and (higher or lower) or (less with than) or (greater with than)	US-PGPUB; USPAT	OR	OFF	2004/12/29 15:53
S18 6	28	S185 and (n-type and p-type)	US-PGPUB; USPAT	OR	OFF	2004/12/29 15:53
S18 7	28	S185 and (n-type with p-type)	US-PGPUB; USPAT	OR	OFF	2004/12/29 15:53
S18 8	9	S185 and charge with (flow or overflow)	US-PGPUB; USPAT	OR	OFF	2004/12/29 15:59
S18 9	79	photodiode same (transfer with transistor) and charge with (flow or overflow)	US-PGPUB; USPAT	OR	OFF	2004/12/29 15:59
S19 0	378	257/435.ccls.	USPAT	OR	OFF	2004/12/29 16:28
S19 1	37	S190 and charge same flow$3	USPAT	OR	OFF	2004/12/29 16:28
S19 2	655	257/431.ccls.	USPAT	OR	OFF	2004/12/29 16:28
S19 3	60	S192 and charge same flow$3	USPAT	OR	OFF	2004/12/29 16:28
S19 4	0	audio adj recording adj communications	USPAT	OR	OFF	2005/01/05 15:12